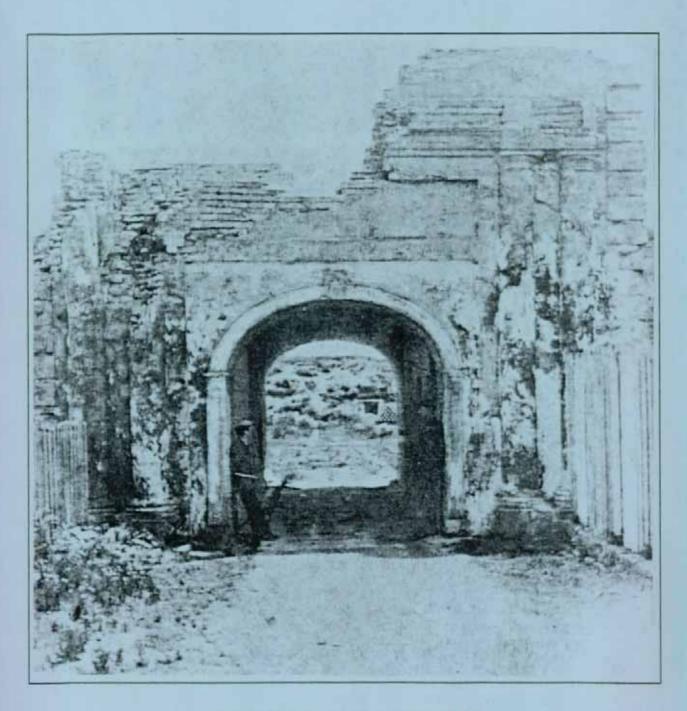
392/D-149

REPORT ON ARCHEOLOGICAL INVESTIGATIONS CONDUCTED FOR THE INSTALLATION OF A DRAINAGE SYSTEM AT FORT MOULTRIE NATIONAL MONUMENT



Southeast Archeological Center National Park Service Tallahassee, Florida

July 1993

,		
		1
		-
		1
		•
		I
		1
		-
		1
		1
		•
		-
		1
		I
		1
		1
		ı
		-
		I
		_

REPORT ON ARCHEOLOGICAL INVESTIGATIONS CONDUCTED FOR THE INSTALLATION OF A DRAINAGE SYSTEM AT FORT MOULTRIE NATIONAL MONUMENT

Вy

Ken S. Wild

SEAC Accession Number: 953

Southeast Archeological Center National Park Service Tallahassee, Florida

1993

Cover: Fort Moultrie, the Sally Port in 1870.

MANAGEMENT SUMMARY

The Southeast Archeological Center (SEAC) monitored the installation of a drainage line and pumping system at Fort Moultrie National Monument in order to locate and assess any cultural resources present and avoid or mitigate the impacts. Removal of the sod along the route of the drain disclosed several intact features along the west side of the entrance walk in front of the northwest bastion. Only one archeological feature was impacted by the placement of the drain line. Excavation of the feature confirmed that the remains were redeposited brick rubble. Installation of the pump and water collection station at the west side of the sally port discovered in situ archeological remains. Evidence of the Union occupation of the fort and World War I barracks was uncovered. The pumping station was shifted slightly north to avoid impact on ca. 1865 structural remains. This required a grade increase from the fort to the station to allow the water to drain towards the pump. A post from the barracks erected in 1918 also had to be removed. The ca. 1865 structural remains were recorded and left in situ. Diagnostic and fragile artifacts from the feature were recovered. Excavation conducted for the water collection tank on the east side of the Sally Port exposed a stratum of Civil War Period materials and structural remains dating to the World War I Period barracks. Construction alterations were made to avoid impact on these historic remains. Displaced artifacts dating to the Fort Moultrie I Period were recovered below an 1870s sidewalk.

ACKNOWLEDGEMENTS

Bennie Keel and George Smith of the Southeast Archeological Center (SEAC) provided advise during this project. Superintendent John Tucker provided logistical coordination throughout the project. This report was edited by Bennie C. Keel, Elizabeth A. Horvath and George S. Smith. Regina M. Leabo assisted in record preparation, artifact analysis, and cataloging. Photographs were prepared by Wild with assistance from Jeff Jones.

TABLE OF CONTENTS

		Page
MAN	AGEMENT SUMMARY	ii
ACK	NOWLEDGEMENTS	iii
LIST	OF FIGURES	v
I.	INTRODUCTION	1
II.	METHODOLOGY FIELD METHODS LABORATORY ANALYSIS AND CONSERVATION COLLECTIONS MANAGEMENT	3 6
III.	INVESTIGATIONS DRAIN LINE PUMPING STATIONS	
IV.	CONCLUSIONS	22
REFI	ERENCES CITED	24

LIST OF FIGURES

Figure		Page
1	Plan of the Proposed Drainage System	1
2	Trench 1	3
3	Photograph Taken in 1973 of the Excavations Conducted by Stanley South (Source: South 1974)	5
4	Base Map of Investigations Conducted at Fort Moultrie	6
5	Plan View of Trench 1	8
6	Photograph of the Barracks Built Along the Curtain Wall in 1918	9
7	Trench 3, Feature 13	11
8	Plan View of Trench 3	11
9	South Profile of Area 2	12
10	Plan View of Area 2	13
11	Ceramic Ale Bottle (FOSU-7049), and Octagon Bottle (FOSU-7070) from the South Profile of Area 2	13
12	Photograph of Fort Moultrie Taken in 1865	15
13	Photograph of Fort Moultrie Taken in 1870	16
14	Area 1 and the Area the Pump and Tank Were Installed	17
15	Feature 17	17
16	Ale (FOSU-7064), Bourbon (FOSU-7051, Champagne (FOSU-6919), and Tall Thin Glass Bottle (FOSU-7059) from Feature 17	18
17	Hardee Hat Pin (FOSU-7028) from Feature 17. Actual Size	19

LIST OF FIGURES (continued)

Figure		Page
18	Possible Opium Vial (FOSU-7048) from Feature 17. Actual Size	19
19	West Profile of Unit 2	20
20	East Profile of Unit 2	21
21	Button from the 1st Regiment of the Regiment of Artillerists (FOSU-6997) and Artillery Corps Button (FOSU-7142). Actual Size	23

I. INTRODUCTION

Archeological investigations were conducted during the installation of a new drainage system designed to pump rain water from the sally port to the bay. The old drain system, which diverted rain water from the entrance of the fort, was damaged by Hurricane Hugo. As a result, flooding increased erosion to the front lawn of Fort Moultrie, the Patapsco Monument, Osceola's grave and the sally port. On occasion, the fort was closed for days while the water slowly drained. To alleviate this flooding, the park developed plans for a drainage system. The proposed plans call for two drop inlet tanks to be placed on either side of the entrance walk of the sally port. The two tanks are connected by a six inch pipe bored beneath the existing walkway. This avoids a ca. 1870 walkway known to exist under the present walk. The tank on the west side contains a three inch pump to divert the water into a force drain. From the pump, the drainpipe traverses west across the front lawn, turns south to skirt the west side of the northwest bastion, then west along the western entrance walk where it turns south ending at the shore line (Figure 1). A similar system was installed in 1989 within the parade ground.

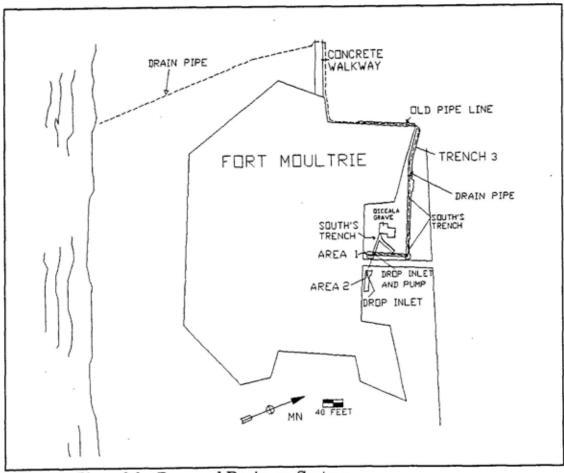


Figure 1. Plan of the Proposed Drainage System.

Since the construction of Fort Moultrie III in 1809 flooding has been a problem. As far back as 1825 with a drainage system of "wooden trunks and drains", (Bearss 1968a:34) efforts to control the rain water have been undertaken. Problems with flooding persisted with each sequential occupation of the fort. By 1975 the necessity of a modern drainage system was recognized; in 1978 three sump pumps and a drain were installed. This system, was inadequate, by 1988 water retention was deteriorating the fabric of the fort and having an adverse affect on the visitor's experience (Brewer 1990).

On August 12 to September 3, 1991 Ken S. Wild and archeological technicians John Cornelison, Terrel Taylor, Tina Rust, and Sunday Walker conducted archeological investigations at Fort Moultrie for the proposed drain system. A total of 40 person days were spent monitoring and conducting archeological investigations and an additional 150 person days were spent on the analysis, cataloging, and report preparation. Over 1300 artifacts and ecofacts were recovered during the field program. The project resulted in the identification of 1830s, Civil War, and World War I Period structural remains and a deposit of redeposited materials dated to the Revolutionary War Period.

II. METHODOLOGY

FIELD METHODS

The purpose of this project was to assess and locate any cultural resources uncovered during the construction and to avoid or mitigate any adverse impacts. Avoidance of intact archeological features along the route of the drainage line was accomplished in a variety of ways which included: placement of the line in previously excavated archeological trenches and pipe routes; identification of areas which have eroded and recently filled; and removing sod and fill from large areas to determine a route which would bypass archeological remains.

The investigations began by excavating a shallow trench (Trench 1) with a backhoe starting at the west side of the sally port, (the pump connection point), and extending along the west side of the entrance walk. To expose any historic features, the sod and a four to six inch level of fill was scraped away. The backhoe dug an eight foot wide by 60 foot long trench in which to place the pipe (Figure 2). Once the trench was excavated it was shovel cleaned to define the features in the subsoil. Since the proposed line was a force drain, as opposed to a gravity feed line, the pipe in this area and other sensitive areas could be laid within the excavated area; eliminating any chance of impacting features not uncovered.



Figure 2. Trench 1.

In 1973, the Institute of Archeology and Anthropology of the University of South Carolina, under the direction of Stanley South (1974) conducted a ten week archeological project that excavated over 1000 cubic yards of soil from a number of

trenches in the front yard (Figure 3). One of South's old trenches (#31) was located on the west side of the front lawn by excavating the fill and sod from a six inch wide slot trench. The pipe was routed west and laid in South's trench. Excavation in this disturbed area was conducted with a ditchwitch. At the end of Trench #31 another eight foot wide shallow trench was excavated, during this project, with the backhoe (Trench 3). In Trench 3 the pipe was directed around a large brick feature. At the corner of the northwest bastion an old pipe line was found. The route of this old pipe was excavated by hand to the original trench depth. The old pipe extended from the northwest corner south, approximately one third the length of the fort's west wall. Hand excavation of this ten inch wide 18 inch deep trench continued past the terminal point of the old pipe, along the fort wall to the west wall entrance walk and then west along this walk. This area was filled or previously disturbed to the depth excavated; no archeological features were encountered. At the western extension of the west entrance sidewalk, the drain pipe was routed south under the walk and towards the bay. Excavation from the walk to the bay was completed with a ditchwitch; the soils in this area are composed of recent fill. The probability of locating intact remains at the depth of excavation was slim, however, the trenching was monitored.

In the areas proposed for the collection tanks the sod and fill was removed. Possible features were identified and the tank locations were adjusted to avoid them. However, the five foot depth of excavation required to place the tanks meant that deeply buried features could be impacted. Excavations by South (1974) and Ehrenhard and Hsu (1977) demonstrated that a well point system was necessary to prevent inundation below a depth of three feet. A well point system was installed by the contractor. Backhoe excavation, to a depth of five feet, began on the east side of the sally port (Area 2). Water permeated the soils at 12 inches below. A Civil War Era stratum was recorded in the south profile. The loose wet sand collapsed this profile one foot further south than the initial excavation. At the base of the profiles wooden remains were encountered.

Archeological excavations on the west side of the sally port (Area 1), were conducted before excavation by backhoe. Investigations in Area 1 encountered intact structural remains which were exposed and documented. Diagnostic materials were removed. The collection tank was moved north of these remains, to an area that had been partially excavated in 1973. Excavation for the tank, in the new area, required the removal of one wooden post associated with the barracks erected in 1918.

To join the two collection stations a pipe had to be routed under the entrance walk (Figure 1). The contractor had difficulty boring the pipe under the walkway because of the loose wet sand. Two attempts to run the pipe from Area 2 stopped just short of the exit point. The excavation of Unit 2, located the pipe, allowing the connection to be made (Figure 4).

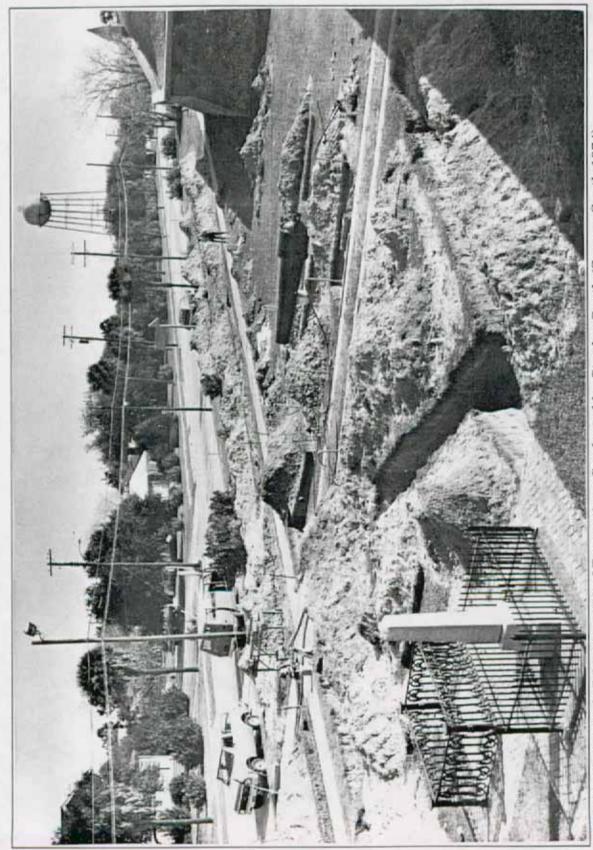


Figure 3. Photograph Taken in 1973 of Excavations Conducted by Stanley South (Source: South 1974).

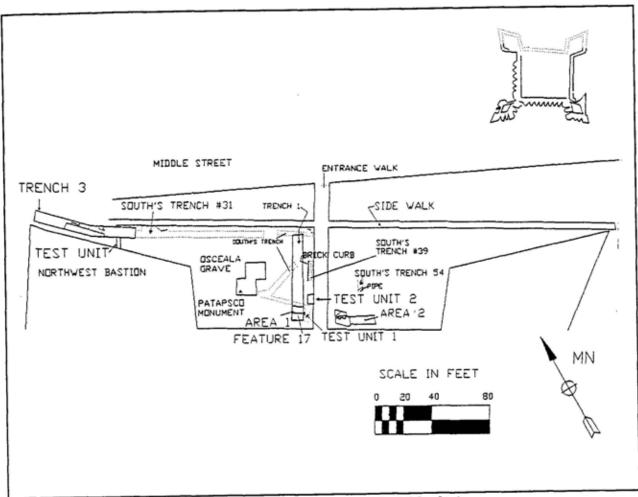


Figure 4. Base Map of Investigations Conducted at Fort Moultrie.

During the project all artifacts, ecofacts, and other evidence of non-modern human activity found in undisturbed context were collected, field identified, cataloged, packed, and returned to the Southeast Archeological Center for analysis. All work was documented with maps, notes, photographs, drawings, and collections. Data were recorded on task specific forms, eg. profile, photographic log. Consistency in data recording was enhanced through the use of standardized forms. All forms were checked at the end of each work day to insure correctness and completeness.

LABORATORY ANALYSIS AND CONSERVATION

The artifacts were returned to the Southeast Archeological Center (SEAC) when the field investigations were complete. Items requiring conservation treatment were taken to the South Florida Conservation Center. Prior to removing the excavated materials

from the park, SEAC personnel obtained a park accession number (FOSU Acc. 701) and a signed NPS Specimen Loan Form (10-127).

The classification and cataloging of the artifacts followed the guidelines set forth in the Cataloging Manual for Archeological Objects, Vols. I, II, III (National Park Service 1990) and the Museum Handbook, Museum Records, part II (National Park Service 1984). The cultural materials were sorted into five basic categories: minerals, vegetal, animal, human, and unidentified. The ceramic and glass items were subjected to a more detailed analysis since relative dates are more easily obtained with these types of data. The data were entered into the Southeast Archeological Cataloging System (SACS) to facilitate data manipulation and cataloging. The artifacts were assigned lot control numbers, which reflect the FS number and lot number, eg. artifact 14.7 belongs in lot 7 of FS 14. A lot is an object or group of objects recovered from the same provenience which are classified as being basically the same. "Lot cataloging is a method of accounting for like objects in groups, or lots, rather than cataloging them individually" (National Park Service 1984:I-1).

COLLECTIONS MANAGEMENT

The data entered into the SACS database was converted into the Automated National Catalog System (ANCS) by Collections Management Section personnel. The artifacts to be curated [provided they are large enough and stable enough] were labeled with the park acronym and its assigned catalog number in indelible ink where no decoration occurs, eg. FOSU-1234. Small, delicate materials were not labeled, but the specific information was recorded on the bag or vial within which the artifacts are placed as well as being on an acid free tag within the container. Metal items have the catalog number written on a stringed tag and tied to the artifact if possible.

The data collected as a result of this project will be curated at the Southeast Archeological Center under the SEAC Accession number 953. These data include but are not limited to: field notes, maps, excavation and feature forms, photographic logs and negatives, the FS log, SACS forms, the artifacts and samples, correspondences, and any reports generated as a result of this project.

III. INVESTIGATIONS

DRAIN LINE

The removal of the sod and fill from Trench 1 exposed nine features and South's Trench #11 and #31 (Figure 5). Artifacts noted on the surface of Trench 1 (excavated eight to six inches below surface) were mixed indicating disturbance of the stratum, particularly from the post Civil War Period. Debris from the ca. 1918-1931 barracks that extended along the curtain wall were recorded (Figure 6). The soils at the surface of the exposed area are identical to those identified by South as the stratum associated with the Civil War Period. However, the soils are mixed and contain artifacts dating from the Colonial Period to the first half of the twentieth century. Thus, it is not possible to date the stratum.

Features 1 and 3 in Trench 1 were recorded as unidentified stains or brick/mortar rubble. Features 4, 5, and 6 are rubble remnants of the brick footers and concrete steps of the ca. 1918-1931 barracks (Figure 6). The location of Feature 7 suggests that it may be the remains of a Civil War Period fence post depicted in a ca. 1865 photograph. Feature 9 was located in the western profile of Trench 1 next to Feature 7. In order to run the pipe along this edge, Feature 9 was exposed, and a ten inch wide trench was archeologically excavated through the feature. Feature 9 consisted of loose brick rubble; it extends into Trench 1 three feet. Artifacts recovered from the feature dated from the Revolutionary War Era through the nineteenth century suggesting the feature is redeposited rubble.

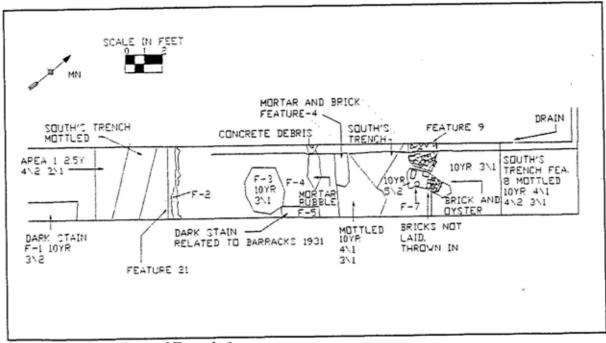


Figure 5. Plan View of Trench 1.

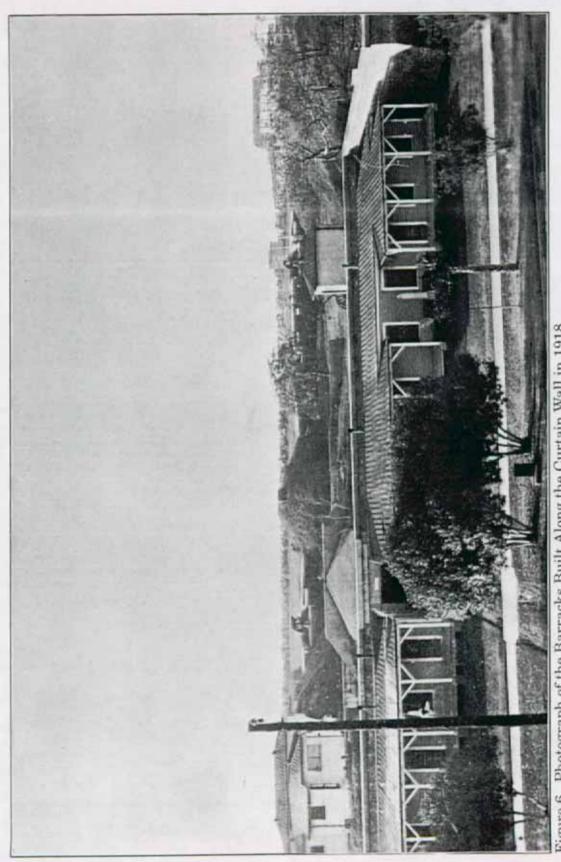


Figure 6. Photograph of the Barracks Built Along the Curtain Wall in 1918.

Within the southern half of Trench 3, Feature 13, a 28 foot long brick layer was exposed by trowel. Most of the brick remains were fragmented but tightly spaced, and small segments were found to be mortared together, like paving (Figure 7). Two trenches had been cut through these brick remains. These trenches are probably the result of a sidewalk, fence, or drain line which had been removed from the area. In the north half of Trench 3, two sections of mortared brick were recorded at the same elevation as Feature 13. The disturbance in the area, however, made it impossible to determine a relationship between the mortared brick features and the brick layer. To ascertain a relationship between Feature 13 and the fort, a foot wide test trench was excavated from the east end of the feature to the bastion wall. The test was dug six inches deep to the surface of Feature 13. Feature 13 ended four feet from the fort wall; a builders trench for the fort extended from the fort to the feature. No diagnostic artifacts were recovered from this test (Figure 8).

The fill and sod removed from Trench 3 contained Colonial Period materials mixed with twentieth century artifacts. Therefore, a concerted effort had to be made to locate materials directly associated with Feature 13. Artifacts found imbedded within the feature date to the first quarter of the nineteenth century. Diagnostic artifacts recovered included: eight cut nails dating after 1805 (Nelson 1968), a creamware sherd dating to 1762-1820 (Noel Hume 1969), a green shell-edged, even scallop, straight line sherd dating to 1809-1831 (Miller 1992), and one plain pearlware sherd dating to 1780-1830 (South 1978).

Modern materials mixed with railway remains were recovered from the trench excavated from the west entrance walk to the bay. The location of these remains match the location of a railway that ran to the shore, along the west side of the fort, during the first quarter of the twentieth century.

PUMPING STATIONS

Excavation for the collection tank on the east side of the entrance walk (Area 2) removed soils from the brick border sidewalk east 19 feet along the curtain wall. The length of Area 2 was expanded, from what was proposed, in order to bore the pipe under the sidewalk to the pumping station. The width of the area excavated, broadened from six to nine feet north. A ruptured clay drainage pipe eroded the sand from the northwest end causing the width to enlarge to nine feet. The clay pipe runs to a city hydrant along the same line as a wooden drain in service during the nineteenth century. This clay pipe was also found by South in his Unit 54, (Figure 4).

The south profile of Area 2, from the surface, consists of a sod and humus level eight inches thick followed by a thick stratum of light yellowish brown (2.5Y 6/4) sand. The third stratum is a four to six inch lens of olive green (5Y 5/3) stained sand. Underlying this level, the soil consists of mixed brown (7.5YR 5/2) and pale red (10YR 6/4) stained sand and continues to a depth of 2.5 feet below the surface. This stratum contains materials dating to the Civil War Period.



Figure 7. Trench 3, Feature 13.

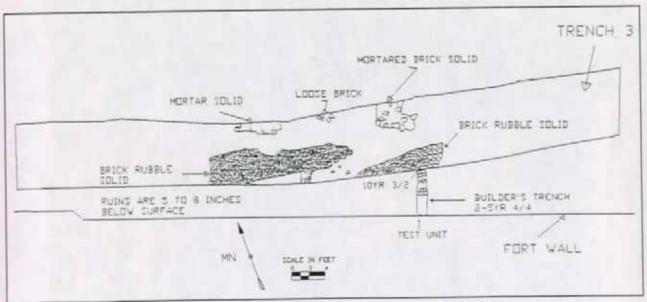


Figure 8. Plan View of Trench 3.

Underlying this level, to the base of excavation, is a very dark gray (10YR 3/1) sand. In the north profile at 42 inches below the surface a railroad tie with two, one inch thick by ten inch wide, boards nailed to the bottom, was uncovered. A square four inch diameter post, related to the 1918-1931 barracks, butted against the north side of the railroad tie (Figure 9 and 10). It is probable that this rail tie is associated with the barracks given the proximity of the post and the absence of the Civil War Period stratum. A railway system was in use around the fort when the barracks were constructed, so lumber of this type was available. Artifacts recovered from around this feature date from the eighteenth century through the nineteenth century. Eighteenth century artifacts include: a Chinese export underglaze porcelain sherd, creamware sherds, and a pipe bowl similar to a decorative type dated to 1780-1820 (Atkinson and Oswald 1972). It is not surprising that these early materials were recovered given the mixed nature of the soils.

A tin bucket, six inches in diameter five inches deep, containing unopened clams was collected below the sod level upon the collapse of the south profile of Area 2. Before the collapse of the profile, Civil War Period artifacts were recorded and recovered from within the fourth stratum. The south profile collapsed at the base of the Civil War level exposing the bottom half of a preserved wooden barrel. A 32 pound solid shot cannonball (determined by X-Ray) was found resting inside the barrel. Below the barrel, a large rounded timber was discovered; tool marks were observed along the length of the log. The barrel and timber were left in situ (Figure 9 and 10). Diagnostic artifacts recovered from this stratum included: a typical mid nineteenth century glass wine bottle base fragment, a British made ceramic beer or ale bottle dating to 1840-1860s (Munsey 1970) (Figure 11), a fragment of a ginger beer bottle of the type dating to the Civil War Period (Dammann 1983), fragments of whiteware, a small light blue glass octagon bottle (Figure 11), and fragments of American stoneware jugs. A piece of leather, a base of a stemmed glass, and a wooden dowel were also taken from this level. A synthetic button may be a rare example of early attempts to produce such materials, according to John Masemen conservator at the South Florida Conservation Center (personal communications 1992). The sand, below the Civil War Period level, to the base of excavation (five feet below surface), contained materials dating from the eighteenth and nineteenth centuries.

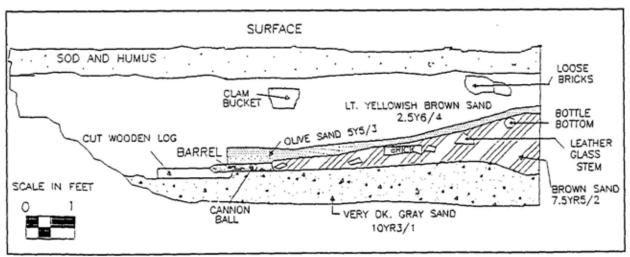


Figure 9. South Profile of Area 2.

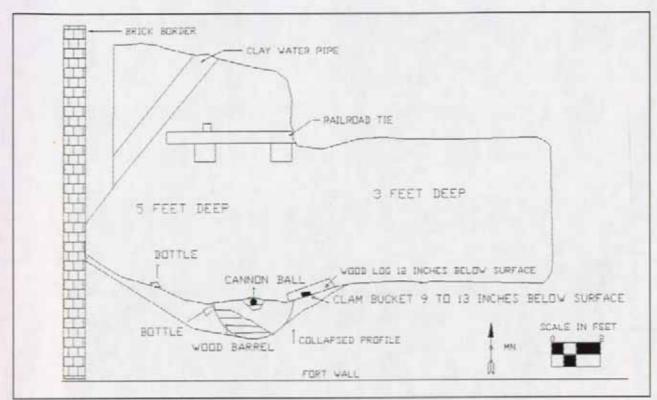


Figure 10. Plan View of Area 2.

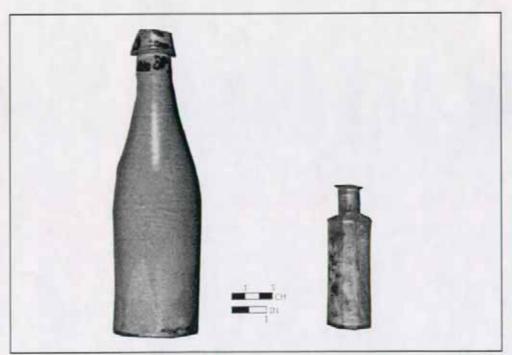


Figure 11. Ceramic Ale Bottle (FOSU-7049) and Octagon Bottle (FOSU-7070) from the South Profile of Area 2.

During the Civil War, occupation of the fort switched three times between the Federal and Confederate forces. Confederate forces evacuated Fort Moultrie III on the 17th of February 1865. Soon after Federal troops reoccupied the fort in 1865 a photographer documented the war's destruction. One photograph depicts structures butted against the fort's curtain wall on either side of the sally port, also, a structure along the flanking wall of the northwest bastion and what appear to be temporary buildings in the northwest half of the front yard. The buildings along the curtain wall are constructed of wood planking with windows and brick chimneys (Figure 12). The brick paved entrance walk is absent. However, the brick border along either side of the entrance walk is present. A photograph taken in 1870, of the sally port entrance, illustrates that the ca. 1865 structures were removed. A wooden fence rests on the brick entrance border where the structures stood (Figure 13).

In the area initially proposed for the drop inlet and pump, a large stain was observed, (Feature 1), consequently, the drop inlet was moved five feet north and two feet west of the brick border. Archeological testing in this section (Area 1) revealed intact structural remains and associated midden debris 1.5 feet below the surface (Feature 17). The location of the structural remains correspond to the structures depicted in the 1865 photograph. The archeological remains consist of midden materials, brick rubble, and the foundation remains. After the surface of Feature 17 was exposed and recorded, diagnostic materials were recovered (Figure 14 and 15).

Artifact analysis confirmed a correlation between Feature 17 and the structure in the 1865 photograph. A considerable amount of window glass and nails were recovered, as would be expected from a wooden structure with windows. Of the 85 nails, the few that were identifiable are typical cut nails manufactured in the nineteenth century. A variety of brass spikes, nails, and tacks were collected. A hat pin initially suggested Feature 17 is associated with Federal occupation of the fort (Howell 1975). The pin was used to fold the Union Hardee Hat. The bottles confirmed Union occupation, as several of those collected were manufactured in northern states. Twenty-six bottles were removed from the surface of the feature. Many more whole and fragmented bottles are embedded; these were left in situ. Eleven whole dark green beer or ale bottles were collected, three of which are embossed B 14 on the base and eight with B 204 (Figure 16). The B was a trade mark for the Baltimore Glass Works which was in business from the 1790s to 1890 (Van Resselaer 1969). Two of the five bourbon bottles are complete; one was manufactured in Philadelphia by the Dyottville Glass Works (Figure 16). A complete Champagne bottle (Figure 16), a ceramic ale bottle, and an unusually thin but tall clear glass bottle (Figure 16) were also recovered.

Artifacts from the steamer Bertrand, which sank on April 1, 1865, were an excellent resource from which to confirm a temporal relationship between the structure in the 1865 photograph and Feature 17. Excavated from the Bertrand were large numbers of ale, bourbon, and champagne bottles which are identical to those retrieved from Feature 17 (Switzer 1974). Artifacts from the feature which date to the Civil War

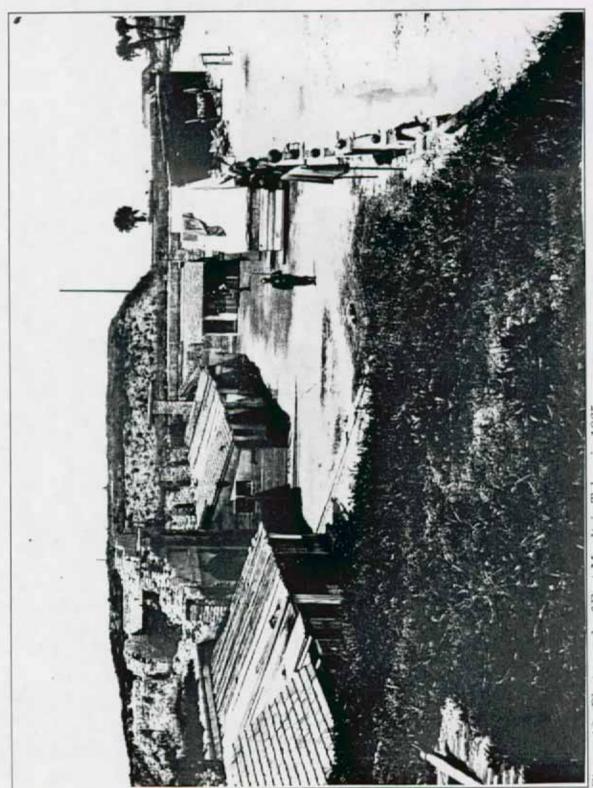


Figure 12. Photograph of Fort Moultrie Taken in 1865.



Figure 13. Photograph of Fort Moultrie Taken in 1870.



Figure 15. Feature 17.



Figure 14. Area I and the Area the Pump and Tank were Installed.

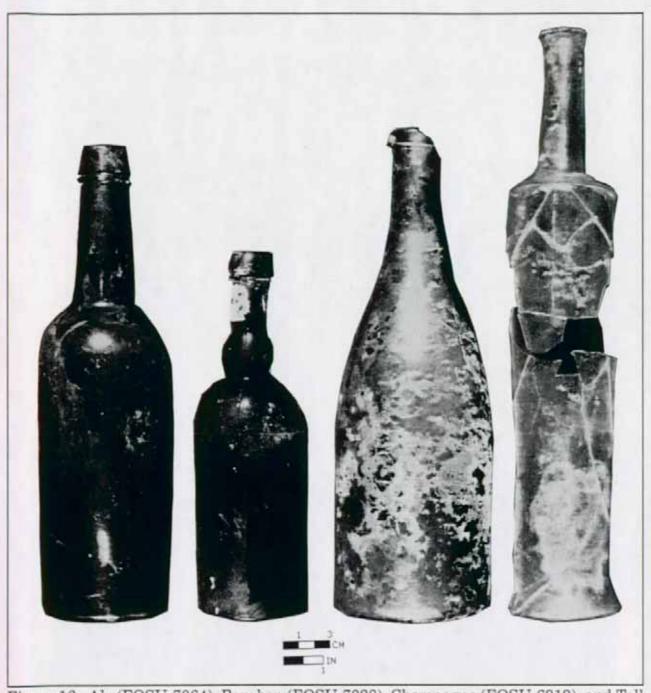


Figure 16. Ale (FOSU-7064), Bourbon (FOSU-7028), Champagne (FOSU-6919), and Tall Thin Glass Bottle (FOSU-7059) from Feature 17.



Figure 17. Hardee Hat Pin (FOSU-7028) from Feature 17. Actual Size.



Figure 18. Possible Opium Vial (FOSU-7048) from Feature 17. Actual Size.

Period include: the Hardee Hat pin (Figure 17), a friction primer of the type that fits an 1853 Einfield, in use throughout the Civil War, a minnie ball, a light blue glass fragment from a four ounce cologne bottle identified by the embossed lion and dated to between 1830-1860s (Mckearin and Wilson 1978), and nineteenth century ceramic fragments of whiteware yellowware (Moore 1985). Two complete pipe bowls and a number of pipe stems were collected. The vertical angle of the bowls, the decoration, and the absence of a heel suggest they date to the mid nineteenth century (Walker 1977). A small vial from the feature may have contained opium (Talley Kirkland Jr., personal communications 1991); it is identical to those used in medical kits of the Civil War (Dammann 1983), (Figure 18).

To preserve the remains in Area 1 the collection tank was moved north of Feature 17, to an area partially excavated in 1973 (South 1974). Installation of the tank, in this section, however, did require the excavation of a wooden 4X4 inch foundation post of the 1918 barracks (Figure 15).

Two attempts by the contractor to connect a pipe from Area 2 to the location of the drop inlet pump failed. The pipe stopped short of the exiting point. To located the pipe, a small test hole was dug northeast of Area 1. This attempt was unsuccessful. Therefore, Unit 2 was excavated between the brick border and the sidewalk to locate the pipe and obtain stratigraphic control (Figure 4). The unit was 40 inches wide and seven feet six inches long and was excavated to a depth of four feet five inches below the surface. The pipe was found in the southern end of the unit. Excavation of Unit 2 uncovered the builders trench for both the entrance walk and the brick border. Ceramics from the brick border builders trench date between 1800-1830s suggesting the border was laid during the construction of Fort Moultrie III (1806-1809) or when

repairs and reconstruction work was conducted in the 1830s (Bearss 1968b). The brick border consists of two courses; a surface course comprised of headers underlaid by a stretcher course. The remains of a 4X4 inch wooden foundation posts for the ca. 1918 barracks was also discovered in the western profile, two feet below the surface. It was left in situ (Figure 19). Culturally sterile soil was encountered three feet below the surface.

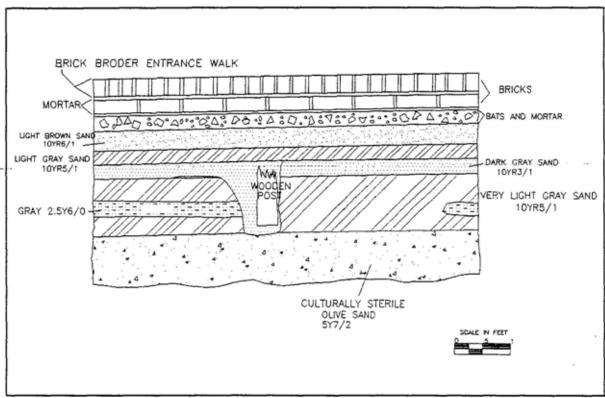


Figure 19. West Profile of Unit 2.

In the eastern profile, the modern entrance walk consists of brick paving and a slab of concrete and is underlaid with various sand levels. The sand was probably laid to protect the 1870s entrance walk which it covers. The brick walk consists of a single header course that is plastered on the surface (Figure 20). The interesting thing about this 1870s walk is the foundation base materials which consist primarily of oyster shell, a large number of cow, pig, and some deer bones mixed with an unusually large amount of eighteenth century artifacts. Eighteenth century ceramic types recovered include: delftware, faience, creamware, English brown salt-glazed stoneware,

Westerwald stoneware, North Devon gravel tempered ware, white salt-glazed stoneware, and Colonoware of the Yaughan type. Other materials dating to this period include: diagnostic wine bottle fragments, pipe stems, table glass, a probable bayonet fragment, and gun flints. A few nineteenth century artifacts consisting primarily of pearlware sherds were also in the base materials and the lower strata. There is no doubt that these eighteenth century artifacts were removed from their original context and redeposited in the 1870s.

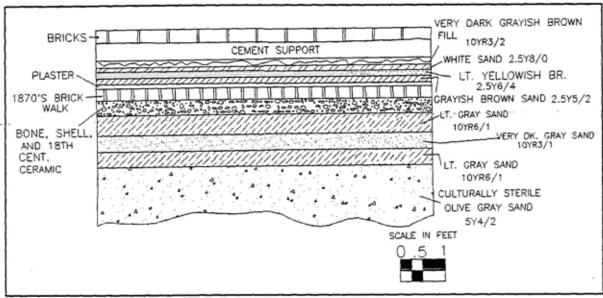


Figure 20. East Profile of Unit 2.

IV. CONCLUSIONS

Subsurface elements of the 1918-1931 barracks, that fronted the curtain wall, were found including three 4X4 inch foundation posts and a railroad tie, and the concrete debris of the barracks steps. The rail tie provided additional foundation support as depicted in the construction plans for the barracks.

The 1865 photograph depicts wooden structures on either side of the sally port. Investigations on the west side of the sally port located the foundation remains for one of these structures. On the east side of the sally port excavations revealed the remains of a Civil War Period stratum in only the south profile. This suggests that the 1865 structural remains that were constructed on this side were, to large degree, disturbed by the construction of the 1918-1931 barracks, as evidenced by the railroad tie and a large clay drain pipe. The pipe is apparently a replacement for the wooden or brick drain depicted in the 1865 photograph; it extends along the same route. The Civil War Period materials that remain in the south profile are well preserved as evidenced by the intact wooden barrel, leather and a synthetic button.

Materials from Feature 17 suggest there was access to, though possibly limited to a few, ale, bourbon, ginger beer, tobacco, perfume and medicines. Faunal remains included: venison, beef, pork, and oysters. Feature 17 continues beyond the area investigated, indicating that the remains of the Civil War barracks extend from the brick border, west along the curtain wall, as depicted in the 1865 photograph. These archeological remains are significant for their potential towards understanding the history of the fort and the soldiers who occupied it immediately after the Civil War.

South Carolina declared that Federal tariffs were null in their state February 1, 1833 (Bearss 1968a). A bill was passed in Congress giving President Jackson the right to use force to collect the tariff. In response, the governor of South Carolina called for 10,000 troops to repulse the forthcoming invasion. During this period of tension, a Captain Eliason ordered the construction of a large wooden palisade around the land side of the fort. This was completed February 19, 1833 (Bearss 1968a). Along the northwest bastion, brick remains were exposed in Trench 3. Artifacts from the feature indicate the bricks were laid in the 1830s. In 1839 a Colonel Totten had the wooden ramps constructed by Captain Eliason replaced with brick (Bearss 1968a). It is probable, that these remains are the remnants of one of those brick ramps.

Fort Moultrie shows the evolution of fort design in America. Extensive modifications were made throughout its history. Many times these modifications were at the expense of older sections of the fort as they were torn down and reused as building material. Evidence of these modifications, by the mixed nature of artifact distribution, was noted by South (1974), Ehrenhard and Hsu (1977), and during this

investigation. Eighteenth and nineteenth century materials were found mixed within the upper cultural strata of the front yard area. This does not preclude that the archeological resources present cannot provide meaningful data on the fort and the different occupants lifestyle and military roles. On the contrary, intact archeological features are present that can address research oriented problems. However, future investigations must not rely heavily on cultural materials contained in the strata but on intact archeological features and the materials found in direct association. Otherwise the conclusions will be skewed by redeposited artifacts.

Redeposited materials can provide valuable data on the occupants of the fort. Redeposited eighteenth century materials under the 1870 sidewalk suggest that occupants of this period were well supplied especially in regard to tableware. A wide variety of eighteenth century ceramic types were recovered that included bowls, plates, cups, and coffee or tea pots. It is probable that future investigations could determine whether the materials are associated with the American or British occupation. Of particular interest, was the recovery of two redeposited buttons, which identify and confirm the presence of military units stationed at the fort in the first quarter of the nineteenth century. One button was struck with script letters RA which represented the 1st Regiment of the Regiment of Artillerists of 1811-1813. The second is an 1814-1821 Artillery Corps button struck with an eagle on a cannon, a pile of ten cannon balls under the muzzle, with the inscription CORPS below (Figure 20) (Albert 1973). In conclusion, redeposited material can provide valuable information to a degree. At Fort Moultrie extra care has to be taken to determine what is intact and what has been redeposited from earlier periods.



Figure 21. Button from the 1st Regiment of the Artillerists (FOSU-6997) and Artillery Corps Button (FOSU-7142). Actual Size.

REFERENCES CITED

Albert, Alphaeus H.

1973 Record of American Uniform and Historical Buttons with Supplement.
Boyertown Publishing Company, Boyertown Pennsylvania.

Atkinson D. R. and Adrian Oswald

1972 A Brief Guide for the Identification of Dutch Clay Tobacco Pipes Found in England. In *Post Medieval Archaeology*, Vol 6.

Bearss, Edwin C.

1968a The First Two Fort Moultries: A Structural History. U.S. Department of the Interior, National Park Service.

1968b Fort Moultrie, No. 3, Fort Sumter National Monument Sullivans Island, South Carolina. U.S. Department of the Interior, National Park Service.

Brewer, David M.

1990 Fort Moultrie Drainfield Test Excavations(SEAC ACC 826) and Trenchline Excavation Monitoring (SEAC ACC 837) Fort Sumter and Fort Moultrie National Monument Sullivans Island, South Carolina. National Park Service, Southeast Archeological Center, Tallahassee, FL.

Dammann, Gordon

1983 Pictorial Encyclopedia of Civil War Medical Instruments and Equipment. Volume I.

Ehrenhard, John E. and Dick Ping Hsu

1977 Archeological Investigations at Fort Moultrie Sullivan's Island, South Carolina (Preliminary Report). National Park Service, Southeast Archeological Center, Tallahassee, FL.

Howell, Edgar M.

1975 United States Army Headgear 1855-1902: Catalog of United States Army Uniforms in the Collections of the Smithsonian Institution, II. Smithsonian Institution Press, City f Washington.

Mckearin, Helen and Kenneth M. Wilson

1978 American Bottles and Flasks and Their Ancestry. Crown Publishers, Inc., New York. Miller, George M.

1992 TPQ List for Glass, Ceramic, Metals, and Other Materials. Unpublished manuscript. National Park Service, Southeast Archeological Center, Tallahassee, FL.

Moore, Sue Mullins

1985 Social and Economic Status on the Coastal Plantation: An Archaeological Perspective. In *The Archaeology of Slavery and Plantation Life*. T.A. Singleton, ed., pp. 141-160. Academic Press, Orlando.

Munsey, Cecil

1970 The Illustrated Guide to Collecting Bottles. Hawthorn Books, Inc., New York.

National Park Service

1984 Museum Handbook, Museum Records, Part II. U.S.

Department of the Interior, Washington, D.C.

1990 Cataloging Manual for Archeological Objects, Vols. I, II, and III. Southeast Archeological Center, Tallahassee, Fl.

Nelson, Lee H.

1968 Nail Chronology as an Aid to Dating Old Buildings. American Association for State and Local History. Technical Leaflet 48. *History News* 24.11.

Noel Hume, Ivor

1969 A Guide to Artifacts of Colonial America. Alfred A. Knopf, New York.

South, Stanley

1974 Palmetto Parapets: Exploratory Archeology at Fort Moultrie, South Carolina, 38CH50. Anthropogical Studies #1. Institute of Archeology and Anthropology, University of South Carolina, Columbia.

1978 Evolution and Horizon as Revealed in Ceramic Analysis in Historical Archaeology. In *Historical Archaeology: A Guide to Substantive and Theoretical Contributions*. Robert L. Schuyler, ed., pp. 68-82. Baywood Publishing Co., Inc., Farmingdale, New York.

Switzer, Ronald R.

1974 The Bertrand Bottles: A Study of 19th-Century Glass and Ceramic Containers. U.S. Department of the Interior, National Park Service. Washington, D.C.

Van Rensselaer, Stephen

1969 Early American Bottles and Flasks. Edited and Published by J. Edmund Edwards, Stratford, Conn.

Walker, Iain C.

1977 Clay Tobacco-Pipes, with Particular Reference to the Bristol Industry. History and Archaeology 11d. National Historic Parks and Sites Branch, Parks Canada.